

What is claimed is:

1           1. An electrode package in which one or more  
2 adhesively-applied skin electrodes may be sealed, said  
3 electrode package comprising:  
4           a first adhesively-applied skin electrode,  
5           an envelope comprising a sheet of material and  
6 adapted to open to a generally flat configuration, and  
7           a releasable seal joining portions of said envelope  
8 to provide a sealed first compartment, said first electrode  
9 being positioned in said sealed first compartment and  
10 isolated from an external environment,  
11           said package further comprising a first wall that  
12 defines a first interior surface facing the interior of said  
13 sealed first compartment, said first interior surface  
14 including a first electrode mounting surface attached to an  
15 adhesive portion of said first electrode, wherein said  
16 envelope may be opened to expose said first electrode to the  
17 external environment by releasing said releasable seal.

1           2. The electrode package of claim 1, further  
2 comprising  
3           a second adhesively-applied skin electrode  
4 positioned in said sealed first compartment and isolated  
5 from the external environment, and  
6           a second wall that defines a second interior surface  
7 facing the interior of said sealed first compartment, said  
8 second interior surface including a second electrode  
9 mounting surface attached to an adhesive portion of said  
10 second electrode,  
11           wherein said second electrode may be exposed to the  
12 external environment by releasing said releasable seal.

1           3. The electrode package of claim 2, wherein  
 2           a first edge of said envelope comprises a fold in  
 3           said sheet of material,  
 4           each of said first and second interior surfaces are  
 5           located on opposite sides of said fold, and  
 6           said first edge, said first interior surface, said  
 7           second interior surface, and said releasable seal are  
 8           adapted to permit said envelope to be opened by breaking  
 9           said releasable seal and folding back said envelope at said  
 10          first edge.

1           4. The electrode package of claim 3, wherein said  
 2           envelope further comprises a pair of tabs adapted to aid in  
 3           breaking said releasable seal, said tabs being located  
 4           opposite said first edge of said envelope.

1           5. The electrode package of claim 1, further  
 2           comprising an adhesive layer for temporarily securing a wire  
 3           lead of said first electrode to said first interior surface,  
 4           said adhesive layer being located on said first interior  
 5           surface.

1           6. The electrode package of claim 1, wherein said  
 2           envelope further comprises:  
 3           a second compartment for containing a connector of  
 4           said first electrode, and  
 5           a barrier element between said first and second  
 6           compartments, said barrier element providing an electrically  
 7           conductive path between said first electrode and the  
 8           connector of said first electrode.

1           7. The electrode package of claim 6, wherein said  
2 envelope is adapted to permit said second compartment to be  
3 opened without affecting said releasable seal.

1           8. The electrode package of claim 6, wherein said  
2 barrier element comprises a layer of material formed around  
3 a wire lead of said first electrode, the wire lead providing  
4 the electrically conductive path between said first  
5 electrode and the connector of said first electrode.

1           9. The electrode package of claim 6, wherein said  
2 barrier element comprises a body of the connector of said  
3 first electrode, the body providing the electrically  
4 conductive path between said first electrode and the  
5 connector of said first electrode.

1           10. The electrode package of claim 1, further  
2 comprising a first reinforcing layer located at said first  
3 electrode mounting surface, wherein said first wall is  
4 thicker at said first electrode mounting surface than at  
5 other regions of said first interior surface.

1           11. An electrode package in which one or more  
2 adhesively-applied skin electrodes may be sealed, said  
3 electrode package comprising:  
4           a first adhesively-applied skin electrode,  
5           a second adhesively-applied skin electrode,  
6           an envelope comprising a sheet of material,  
7           a releasable seal joining portions of said envelope  
8 to provide a sealed first compartment, said first electrode  
9 and said second electrode being positioned in said sealed  
10 first compartment and isolated from an external environment,

11 a first wall that defines a first interior surface  
12 facing the interior of said sealed first compartment, said  
13 first interior surface including a first electrode mounting  
14 surface attached to an adhesive portion of said first  
15 electrode,

16 a second wall that defines a second interior surface  
17 facing the interior of said sealed first compartment, said  
18 second interior surface including a second electrode  
19 mounting surface attached to an adhesive portion of said  
20 second electrode,

21 wherein said first and second interior surfaces face  
22 each other.

1 12. The electrode package of claim 11, wherein said  
2 first electrode and said second electrode may be exposed to  
3 the external environment by releasing said releasable seal,  
4 and wherein, when said releasable seal is released, said  
5 first and second electrode mounting surfaces both face  
6 upward and are approximately coplanar.

1 *Sub B* 13. An electrode package in which one or more  
2 adhesively-applied skin electrodes may be sealed, said  
3 electrode package comprising:  
4 a first adhesively-applied skin electrode,  
5 a first compartment containing said first electrode,  
6 a releasable seal adapted to seal said first  
7 compartment and maintain said first electrode in a sealed  
8 mode in which said first electrode is not exposed to an  
9 external environment,  
10 a connector of said first electrode,  
11 a second compartment outside of said first  
12 compartment and containing said connector of said first  
13 electrode, and

14 a barrier element positioned at said releasable seal  
15 and providing an electrically conductive path between the  
16 first electrode and the connector without exposing the first  
17 electrode to the external environment.

1 ~~Sub 14.~~ The electrode package of claim 13, wherein said  
2 barrier element comprises a layer of material formed around  
3 a wire lead of said first electrode, the wire lead providing  
4 the electrically conductive path between said first  
5 electrode and the connector.

1 ~~15.~~ The electrode package of claim 13, wherein said  
2 barrier element comprises a body of the connector, the body  
3 providing the electrically conductive path between said  
4 first electrode and the connector.

1 ~~Sub 16.~~ An electrode package in which one or more  
2 adhesively-applied skin electrodes may be sealed, said  
3 electrode package comprising:  
4 a first adhesively-applied skin electrode,  
5 a compartment containing said first electrode,  
6 a releasable seal adapted to seal said compartment  
7 and maintain said first electrode in a sealed mode in which  
8 said first electrode is not exposed to an external  
9 environment,

10 a connector of said first electrode, the connector  
11 being exposed to the external environment, and

12 a barrier element positioned at said releasable seal  
13 and providing an electrically conductive path between said  
14 first electrode and said connector of said first electrode  
15 without exposing the first electrode to the external  
16 environment.

1 17. The electrode package of claim 16, wherein said  
2 barrier element comprises a layer of material formed around  
3 a wire lead of said first electrode, the wire lead providing  
4 the electrically conductive path between said first  
5 electrode and the connector.

1 *Sub 17* 18. The electrode package of claim 17, wherein the  
2 layer of material includes an arcuate upper portion and an  
3 arcuate lower portion,  
4 said barrier element being formed by heat sealing a  
5 first wall of the compartment to the arcuate upper portion,  
6 heat sealing a second wall of the compartment to the arcuate  
7 lower portion, and heat sealing the first and second walls  
8 to each other.

1 19. The electrode package of claim 16, wherein said  
2 barrier element comprises a body of the connector, the body  
3 providing the electrically conductive path between said  
4 first electrode and the connector.

1 *Sub 18* 20. An electrode package in which one or more  
2 adhesively-applied skin electrodes may be sealed, said  
3 electrode package comprising:  
4 a compartment for maintaining a first said electrode  
5 in either a sealed mode in which the first said electrode is  
6 not exposed to an external environment or an unsealed mode  
7 in which the first said electrode is exposed to the external  
8 environment, and  
9 a barrier element between said compartment and the  
10 external environment, said barrier element providing an  
11 electrically conductive path between the first said  
12 electrode and a connector of the first said electrode that  
13 is located in the external environment,

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14 wherein said barrier element comprises a body of the  
15 connector, the body providing the electrically conductive  
16 path between the first said electrode and the connector, and  
17 wherein the body comprises a single piece of  
18 material and includes an integral hinge.

1 21. An electrode package in which one or more  
2 adhesively-applied skin electrodes may be sealed, said  
3 electrode package comprising:  
4 a compartment for maintaining a first said electrode  
5 in either a sealed mode in which the first said electrode is  
6 not exposed to an external environment or an unsealed mode  
7 in which the first said electrode is exposed to the external  
8 environment, and  
9 a barrier element between said compartment and the  
10 external environment, said barrier element providing an  
11 electrically conductive path between the first said  
12 electrode and a connector of the first said electrode that  
13 is located in the external environment,  
14 wherein said barrier element comprises a body of the  
15 connector, the body providing the electrically conductive  
16 path between the first said electrode and the connector, and  
17 wherein the body includes a plurality of strain  
18 relief posts for relieving strain on a wire lead located  
19 between the first said electrode and the connector.

1 22. An electrode package in which one or more  
2 adhesively-applied skin electrodes may be sealed, said  
3 electrode package comprising:  
4 a compartment for maintaining a first said electrode  
5 in either a sealed mode in which the first said electrode is  
6 not exposed to an external environment or an unsealed mode

7 in which the first said electrode is exposed to the external  
8 environment, and

9 a barrier element between said compartment and the  
10 external environment, said barrier element providing an  
11 electrically conductive path between the first said  
12 electrode and a connector of the first said electrode that  
13 is located in the external environment,

14 wherein said barrier element comprises a body of the  
15 connector, the body providing the electrically conductive  
16 path between the first said electrode and the connector, and

17 wherein the body includes a first end located in the  
18 external environment, a second end located in said  
19 compartment, and a central section that comprises said  
20 barrier element and includes an arcuate upper portion and an  
21 arcuate lower portion,

22 said barrier element being formed by heat sealing a  
23 first wall of the compartment to the arcuate upper portion,  
24 heat sealing a second wall of the compartment to the arcuate  
25 lower portion, and heat sealing the first and second walls  
26 to each other.

1 *Sub* 23. An electrode package in which one or more  
2 adhesively-applied skin electrodes may be sealed, the  
3 electrode package comprising:

4 an adhesively-applied skin electrode,

5 a compartment for maintaining the electrode in  
6 isolation from an external environment, and

7 a connector electrically connected to the electrode  
8 and comprising a connector body including a first end  
9 exposed to an interior of the compartment and in isolation  
10 from the external environment, and a second end isolated  
11 from the interior of the compartment when the compartment  
12 maintains the electrode in isolation from the external



13 environment, the connector body providing an electrically  
 14 conductive path to the electrode from outside the  
 15 compartment when the compartment maintains the electrode in  
 16 isolation from the external environment,  
 17 wherein  
 18 the electrode is positioned in the compartment  
 19 and isolated from the external environment,  
 20 the electrode is removable from the compartment  
 21 to expose the electrode to the external environment, and  
 22 the connector maintains the electrical  
 23 connection to the electrode when the electrode is removed  
 24 from the compartment.

1 24. The electrode package of claim 23, wherein the  
 2 connector further comprises a terminal extending from the  
 3 second end of the connector body, and an electrically  
 4 conductive path is provided between the electrode and the  
 5 terminal when the compartment maintains the electrode in  
 6 isolation from the external environment.

1 25. The electrode package of claim 23, further  
 2 comprising a wire lead extending from the electrode to the  
 3 first end of the connector body, the wire lead being  
 4 positioned within the compartment and providing the  
 5 electrical connection between the electrode and the  
 6 connector.

1 26. The electrode package of claim 23, further  
 2 comprising a second adhesively-applied skin electrode  
 3 positioned within the compartment, the compartment  
 4 maintaining the second electrode in isolation from the  
 5 external environment, wherein:

6 the second electrode is removable from the  
7 compartment to expose the second electrode to the external  
8 environment.

1 27. The electrode package of claim 26, wherein the  
2 connector further comprises first and second terminals  
3 extending from the second end of the connector body, wherein  
4 an electrically conductive path is provided between the  
5 first electrode and the first terminal and between the  
6 second electrode and the second terminal when the  
7 compartment maintains the electrodes in isolation from the  
8 external environment.

1 28. The electrode package of claim 27, further  
2 comprising a first wire lead extending from the first  
3 electrode to the first terminal and a second wire lead  
4 extending from the second electrode to the second terminal.

1 29. The electrode package of claim 23, wherein the  
2 compartment comprises an envelope comprising a sheet of  
3 material that defines the compartment and is adapted to open  
4 to a generally flat configuration.

1 30. The electrode package of claim 29, wherein the  
2 envelope further comprises a seal joining portions of the  
3 envelope to define the compartment.

1 31. The electrode package of claim 30, wherein the  
2 seal comprises a releasable seal, the envelope being  
3 openable to expose the first electrode to the external  
4 environment by releasing the releasable seal.

1           32. The electrode package of claim 29, wherein the  
2 compartment comprises a first wall that defines a first  
3 interior surface facing the interior of the compartment, the  
4 first interior surface including a first electrode mounting  
5 surface attached to an adhesive portion of the electrode.

1           33. The electrode package of claim 32, further  
2 comprising:  
3           a second adhesively-applied skin electrode  
4 positioned in the compartment and isolated from the external  
5 environment, and  
6           a second wall that defines a second interior surface  
7 facing the interior of the compartment, the second interior  
8 surface including a second electrode mounting surface  
9 attached to an adhesive portion of the second electrode.

1           34. The electrode package of claim 33, wherein  
2 each of the first and second interior surfaces are  
3 located on opposite sides of a first edge of the envelope,  
4 and  
5           the first edge, the first interior surface, and the  
6 second interior surface are adapted to permit the envelope  
7 to be opened by folding back the envelope at the first edge.

1           35. The electrode package of claim 34, wherein the  
2 first edge of the envelope comprises a fold in the sheet of  
3 material.

1           36. The electrode package of claim 34, wherein the  
2 envelope further comprises a pair of tabs adapted to aid  
3 opening the envelope, the tabs being located opposite the  
4 first edge of the envelope.

1 37. The electrode package of claim 33, wherein the  
2 first and second interior surfaces face each other.

1 38. The electrode package of claim 37, wherein the  
2 first electrode and the second electrode may be exposed to  
3 the external environment by opening the envelope, and  
4 wherein, when the envelope is opened, the first and second  
5 electrode mounting surfaces both face upward and are  
6 approximately coplanar.

1 39. The electrode package of claim 32, further  
2 comprising an adhesive layer for temporarily securing a wire  
3 lead of the electrode to the first interior surface, the  
4 adhesive layer being located on the first interior surface.

1 40. The electrode package of claim 32, further  
2 comprising a first reinforcing layer located at the first  
3 electrode mounting surface, wherein the first wall is  
4 thicker at the first electrode mounting surface than at  
5 other regions of the first interior surface.

1 41. The electrode package of claim 23, wherein the  
2 connector body comprises a single piece of material and  
3 includes an integral hinge.

1 42. The electrode package of claim 23, further  
2 comprising a wire lead extending from the electrode to the  
3 second end of the connector body, the wire lead being  
4 positioned within the compartment and providing the  
5 electrical connection between the electrode and the  
6 connector,

7 wherein the connector body includes strain relief  
8 elements for relieving strain on the wire lead.



1           47. The electrode package of claim 46, wherein:  
2           the first wall of the compartment is secured to the  
3 upper portion of the connector body by heat sealing; and  
4           the second wall of the compartment is secured to the  
5 lower portion of the connector body by heat sealing.

1           48. The electrode package of claim 23 in  
2 combination with a defibrillator, wherein the adhesively-  
3 applied skin electrode comprises a defibrillation electrode  
4 and the connector and defibrillator are connected to provide  
5 an electrically conductive path between the defibrillator  
6 and the electrode while the compartment maintains the  
7 electrode in isolation from the external environment.

1           49. The electrode package of claim 6 in combination  
2 with a defibrillator, wherein the first adhesively-applied  
3 skin electrode comprises a defibrillation electrode and the  
4 connector and defibrillator are connected to provide an  
5 electrically conductive path between the defibrillator and  
6 the electrode while the sealed first compartment maintains  
7 the electrode in isolation from the external environment.

1           50. The electrode package of claim 13 in  
2 combination with a defibrillator, wherein the first  
3 adhesively-applied skin electrode comprises a defibrillation  
4 electrode and the connector and defibrillator are connected  
5 to provide an electrically conductive path between the  
6 defibrillator and the electrode while the releasable seal  
7 maintains the electrode in the sealed mode in isolation from  
8 the external environment.

1           51. The electrode package of claim 16 in  
2 combination with a defibrillator, wherein the first

3 adhesively-applied skin electrode comprises a defibrillation  
4 electrode and the connector and defibrillator are connected  
5 to provide an electrically conductive path between the  
6 defibrillator and the electrode while the releasable seal  
7 maintains the electrode in the sealed mode in isolation from  
8 the external environment.

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